

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A modulation device comprising:

a sampling pattern generating unit configured to generate a sampling pattern for each of multiple types of modulation techniques, the sampling pattern representing information about a sampling period for acquiring discrete data along a temporal axis and information about a sampling space for acquiring discrete data along an amplitude direction;

a modulation unit configured to modulate data in a hierarchical manner using the multiple types of modulation techniques based on the sampling pattern and to produce hierarchically modulated data that includes signal states for the multiple types of modulation techniques, such that a portion of a bit sequence which represents constellation points in a constellation plane in accordance with a first modulation technique of the modulation techniques is identical with a bit sequence which represents constellation points in a constellation plane in accordance with a second modulation technique of the modulation techniques; and

a transmission unit configured to transmit the hierarchically modulated data.

Claim 2 (Canceled).

Claim 3 (Original): The modulation device according to claim 2, wherein the sampling pattern defines the sampling space of a carrier used in one of multi-phase phase shift keying and multi-value quadrature amplitude modulation.

Claim 4 (Previously Presented): The modulation device according to claim 2, wherein the transmission unit is configured to transmit the sampling pattern, together with the hierarchically modulated data.

Claims 5-10 (Canceled).

Claim 11 (Currently Amended): A modulation method, performed on a modulation device, comprising:

generating, at a sampling pattern generating unit, a sampling pattern for each of multiple types of modulation techniques, the sampling pattern representing information about a sampling period for acquiring discrete data along a temporal axis and information about a sampling space for acquiring discrete data along an amplitude direction;

modulating, at a modulation device, data in a hierarchical manner using multiple types of modulation techniques based on the sampling pattern to produce hierarchical modulation data;

producing, at the modulation device, hierarchically modulated data that includes signal states for the multiple types of modulation techniques, such that a portion of a bit sequence which represents constellation points in a constellation plane in accordance with a first modulation technique of the modulation techniques is identical with a bit sequence which represents constellation points in a constellation plane in accordance with a second modulation technique of the modulation techniques; and

transmitting, at a transmitting device, the hierarchical modulation data to a demodulator of a counterpart communication device.

Claim 12 (Canceled).

Claim 13 (Original): The modulation method according to claim 12, wherein the sampling pattern defines the sampling space of a carrier used in one of multi-phase phase shift keying and multi-value quadrature amplitude modulation.

Claim 14 (Previously Presented): The modulation method according to claim 12, further comprising:

transmitting the sampling pattern together with the hierarchically modulated data.

Claim 15-20 (Canceled).